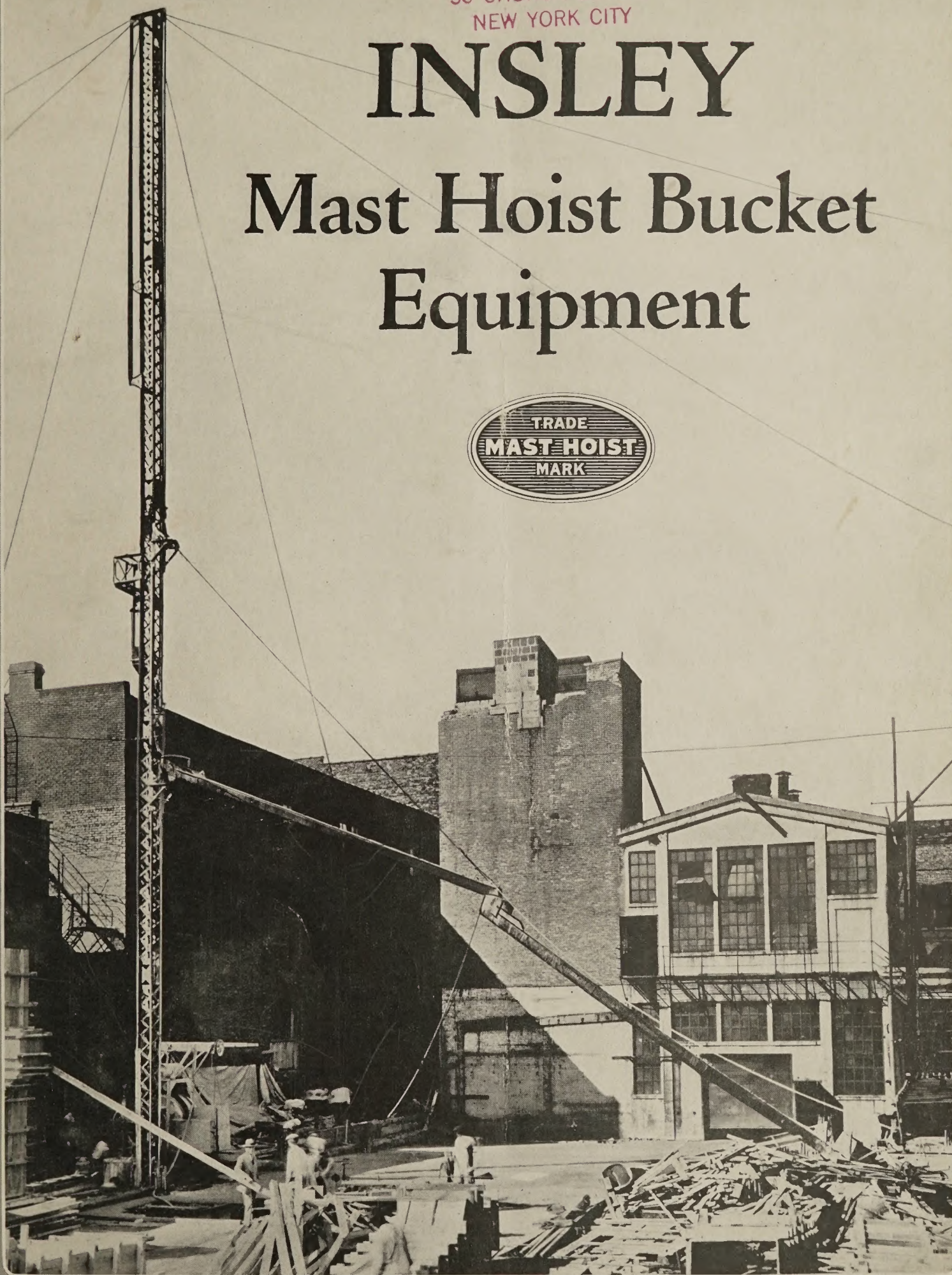


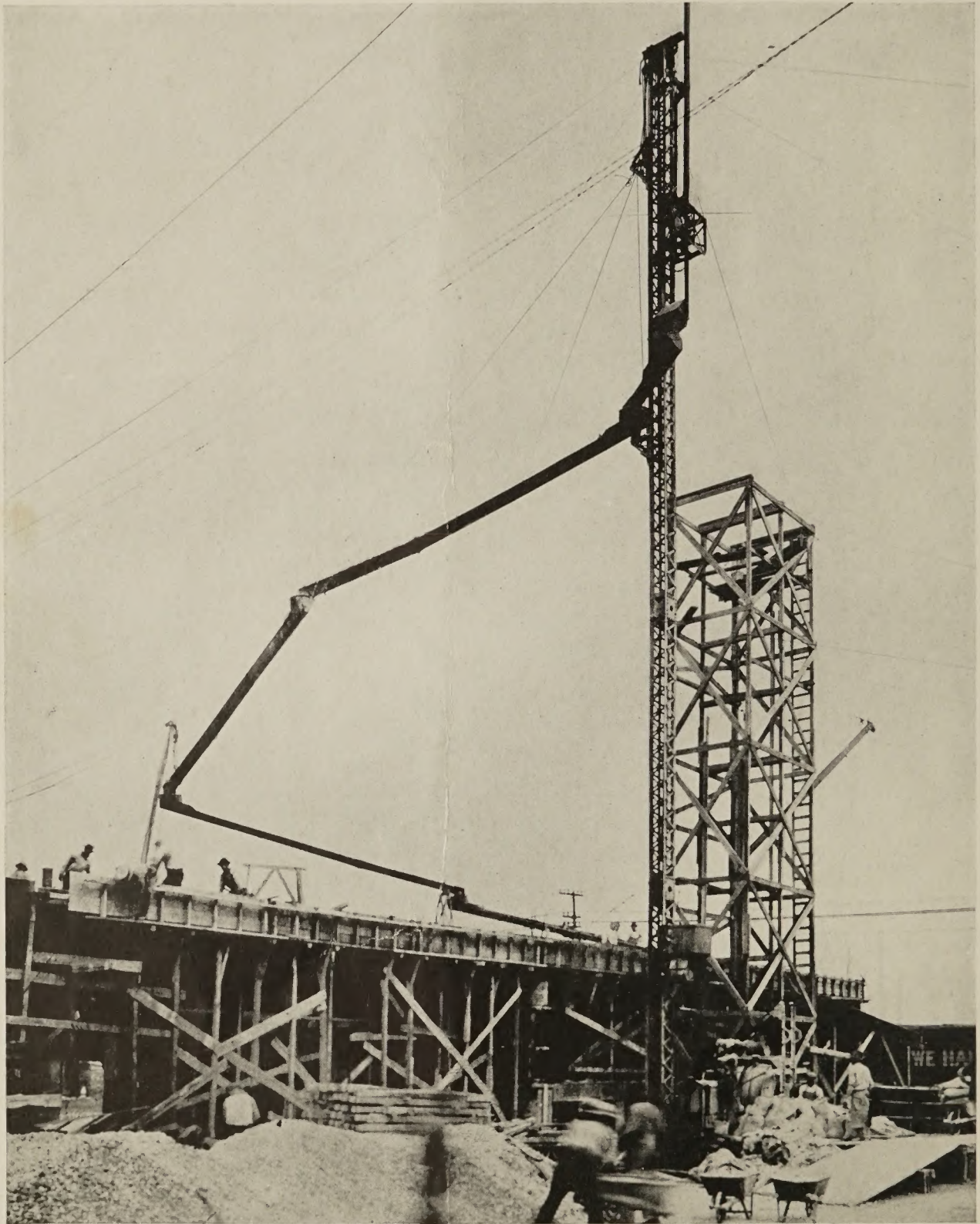
R. E. BROOKS CO.
EQUIPMENT FOR CONTRACTORS
50 CHURCH STREET
NEW YORK CITY

8240

INSLEY

Mast Hoist Bucket Equipment





Equipment the first cost of which is but little more than that of the wood tower equipment that it is intended to replace and which has marked advantages as regards erection, operation and maintenance. The steel mast equipment is permanent plant and can be used on job after job with but little depreciation



F O R E W O R D



EVER since chuting has been considered as the accepted method of handling concrete on the bulk of the larger construction projects there has remained an unsolved problem as to how the so-called smaller jobs could be equipped while retaining a proper ratio between plant investment and efficiency of operation. In many cases the yardage to be placed did not warrant the construction of a concrete hoist tower, with the result that makeshift methods had to be employed for the handling of the concrete. Excessively high labor charges were the result.

Realizing the importance to the construction industry of a plant of reasonable first cost and efficient operation, the same Insley engineers who have been responsible for the development of steel tower concrete placing equipment set about to design a plant that could be used with equal efficiency where a few hundred or several thousand yards of concrete are to be handled. From their work both in the office and in the field the Insley Mast Hoist Plant has developed and the Insley Manufacturing Company offers this equipment to its friends as one of the outstanding developments of the past few years in the construction equipment field.

WHAT THE PLANT CONSISTS OF

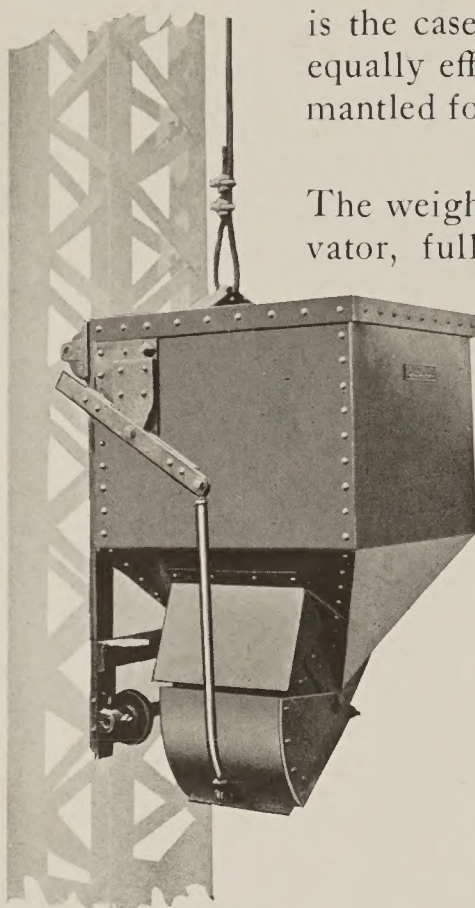
The complete plant consists of a mast which may be of either wood or steel, a bucket of sufficient capacity to handle either a 7-S or 14-S mixer batch of mixed concrete, a head frame which serves to dump automatically the bucket at a predetermined height, top and bottom hoist line sheaves, and chutes where the same can be used to advantage. Any standard make of mixer or hoisting engine can be used with the equipment.

WORK FOR WHICH ADAPTED

The equipment is adapted for use in connection with the construction of concrete buildings such as schools, garages, silos, etc., bridges of limited span, retaining walls, and in fact every class of work where the concrete has to be elevated into the forms. Whereas the cost of the equipment is such that its use is warranted where only a few hundred yards of concrete are to be placed, its efficiency is such as to dictate its employment where as much as three or four thousand yards are to be handled. In cases where a large yardage has been widely distributed, as many as seven plants have been erected on a single job.

ADVANTAGES AND ECONOMY

The plant provides the time and labor-saving features common to the gravity method of handling concrete where a continuous flow of concrete in chutes eliminates many of the causes of delay experienced where wheelbarrows or carts are used. The equipment can be erected quicker and at a lower cost than



Bucket being raised on the mast. Where a wood mast is used the bucket rollers ride on angle guides bolted to the face of the mast

is the case with the tower equipment which it replaces, is equally efficient of operation, and can more readily be dismantled for movement from one job to another.

HOISTING ENGINE

The weight of the 7 cubic foot bucket, or the material elevator, fully loaded, is approximately 1,500 pounds, and making allowance for a 200-pound frictional resistance, it is recommended that the hoist used have a minimum pull of 1,700 pounds for single-line operation and of 900 pounds for double line. The weight of the 14 cubic foot bucket fully loaded is 2,800 pounds, making a hoist line pull of 3,000 pounds necessary for single-line work and 1,600 pounds where the bucket is rigged with a double hoist line.

While the height of the mast and class of work involved determine the hoisting speed that should be available, 100 feet per minute is the minimum that is recommended. Single-line operation is preferable to double line, owing to the

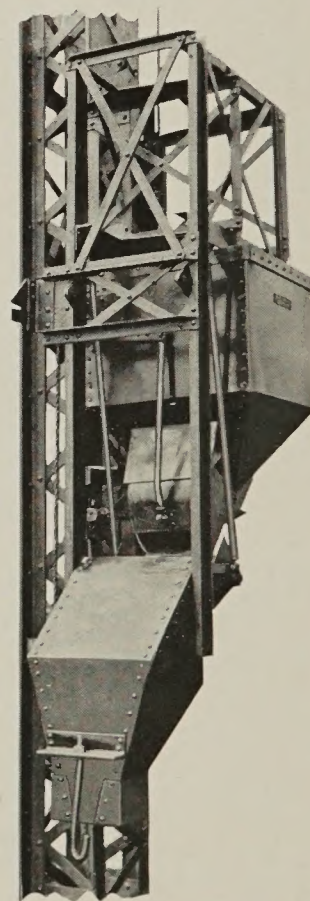
better hoisting speed that can be obtained and any good single drum hoist of requisite power will prove satisfactory.

HOIST AND GUY LINES

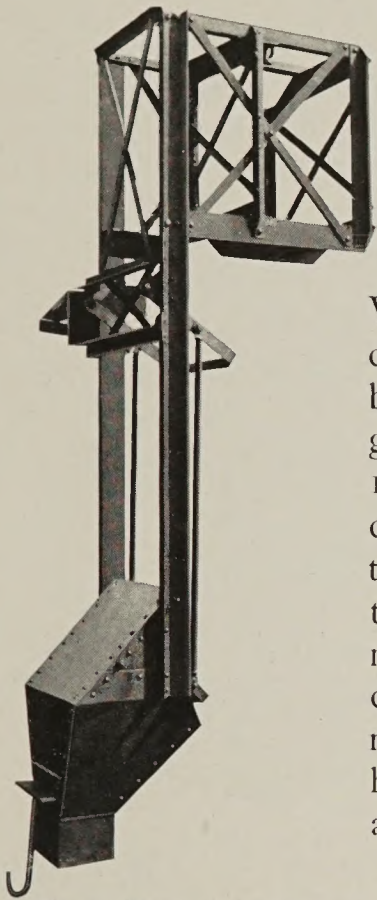
A $\frac{3}{8}$ " (6 x 19) plow steel hoist line should be used to handle the 7 cubic foot capacity bucket and $\frac{1}{2}$ " line for the 14 cubic foot. The guy lines for either size of plant are $\frac{3}{8}$ " (6 x 19) CCS wire rope or its equivalent. The mast should be guyed at 40-foot intervals, the lines running to the ground at a slope of not less than 45 degrees. All wire rope is furnished by the purchaser.

HEIGHT OF MAST

In order to ascertain the height of mast that will be required when chutes are used it is necessary to add one-third of the distance through which the concrete is to be conveyed to the maximum height above the mixing plant at which concrete is to be placed. To this sum should be added 11 feet to take care of the required head room on



Bucket in dumping position. The shape of the bucket is such that the load is quickly and cleanly dumped, the entire operation being automatic



The headframe is fastened to the mast and when the bucket reaches its dumping position the top of the bucket strikes the lever shown, this throwing out an apron which bridges the space between the hopper and bucket gate

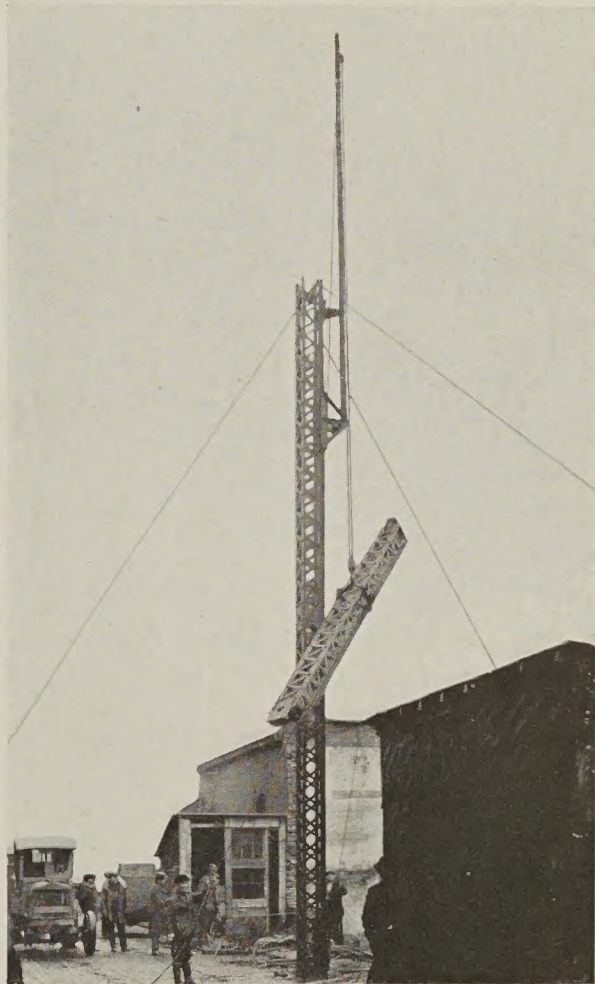
plants of the types described on pages 11 and 13 and 20 feet for head room where boom plant equipment as described on page 7 is used. When no chutes are used it is only necessary to figure the height of work, and to this add 11 feet for head room.

CHUTES

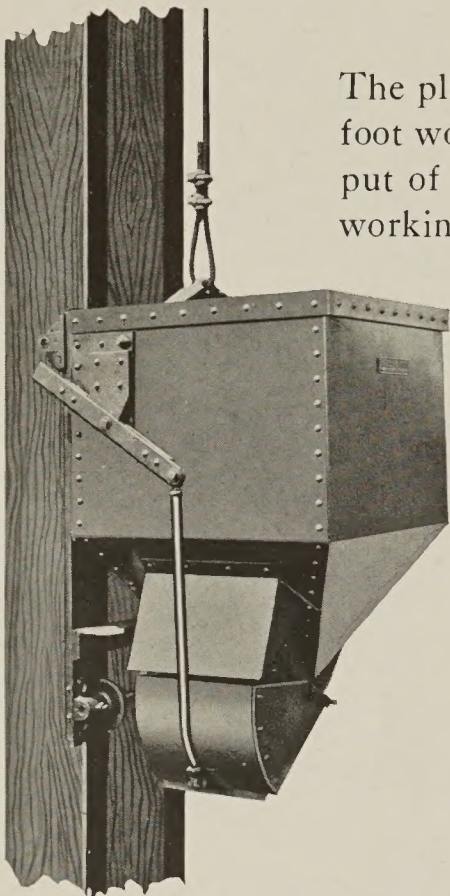
Whereas there are cases in which it is advisable to take the concrete directly away from the mast in carts or wheelbarrows, on the majority of jobs chutes can be used to great advantage. Chute sections can be supplied in either 10 foot, 20 foot or 30 foot lengths, these to be erected at the commonly accepted slope of 1 in 3. If the concrete is turned out of the mixer in a plastic, homogeneous condition there will be no trouble in the chutes. Do not make a sloppy mix having an excess amount of water.

OPERATION

The base of the mast is as a rule set below ground level, so that the mixer can discharge directly into the bucket without the necessity of elevating the mixer. After receiving its batch the bucket is hoisted and automatically dumped by striking the head frame in such a manner that a lever opens the gate at the bottom of the bucket. The bucket empties itself by gravity, and is of such a shape that a clean, quick discharge takes place; as the bucket is lowered the gate closes by its own weight. With proper hoisting power available, the plant will handle all of the concrete a 7-S or 14-S mixer can turn out.



The steel mast is strongly recommended in preference to a wood mast for the reason that it is a permanent item of equipment which can be used to equal advantage on job after job. It is made in 20-foot sections to facilitate erection, and as all of the intermediate sections are made to template and are interchangeable it is possible to increase or decrease the height of mast to accommodate varying jobs. The erection gin pole illustrated is furnished as a part of all steel mast equipment



Bucket as being operated on a wood mast. The mast is of built-up construction and the angle guides on which the bucket runs are furnished as a part of the plant

loading and held there by the engine. The platform frame is 36 x 48" and is of sufficient size to permit building a wood floor to take either a wheelbarrow or cart. This flooring is put on by the owner to fit his particular needs.



Bail Block furnished as an extra for two-line operation

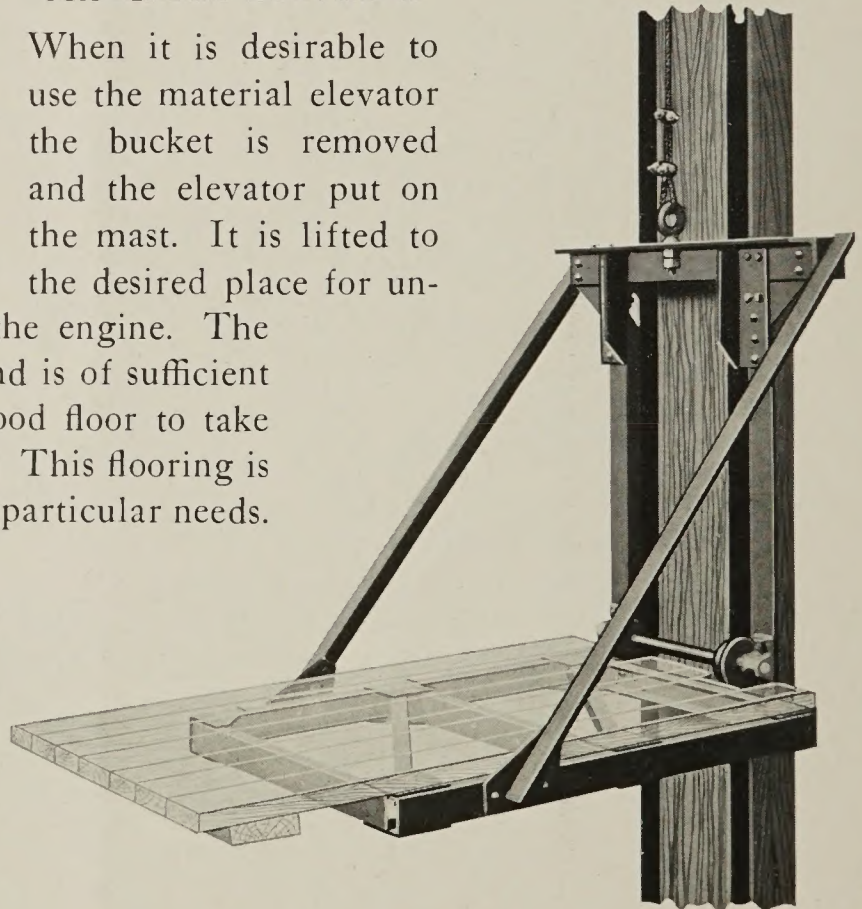
SIZES OF EQUIPMENT

The plants are made in two sizes, the one having a 7 cubic foot working capacity bucket for use in handling the output of a 7-S mixer and the other having a 14 cubic foot working capacity hoist bucket for the handling of a 14-S mixer batch. Whereas the smaller plant is made for either wood or steel mast use, a steel mast has to be employed with the 14 cubic foot unit.

The maximum height of mast recommended is 80 feet for wood and 140 feet for steel where the mast stands in the open and is supported by guys. When the mast can be tied to the structure as the building progresses in height there is no practicable limit to the height to which either type can be carried.

MATERIAL ELEVATOR

When it is desirable to use the material elevator the bucket is removed and the elevator put on the mast. It is lifted to the desired place for un-



Material Elevator, capacity 1000 pounds. This is furnished as an extra and can be used with either wood or steel mast equipment



In the construction of the Louisville gas plant, where the yardage of concrete was widely distributed, five mast hoist plants did the work that otherwise would have required an elaborate chuting system



An 80-foot Steel Mast Boom Plant being used on stadium work. Being mounted on a movable platform, the equipment can be readily shifted to successive pouring positions



STEEL MAST BOOM PLANT



Steel Mast Boom Plant

THE Steel Mast Boom Plant is the most universally used type of mast hoist equipment and is the plant which is recommended as a standard item of concrete placing equipment adapted for use on practically all classes of concrete construction. The sliding frame feature makes it possible to readily accommodate the equipment to different pouring levels and the self-supporting boom chute, which can be followed by a second 30-foot section, the head end of which is likewise carried from the mast, makes possible the placing of concrete at any point within a sixty-foot reach without recourse to floor supports for chuting.

The plant is so designed that it can readily be erected or dismantled, and, being of steel throughout, is subject to practically no depreciation. Its economies of erection, operation and maintenance are such that, compared with the wood hoist tower equipment which it replaces, it will soon pay for itself. The plants are made in two sizes to take either the output of a 7-S or 14-S mixer and consist of the following parts:

HOIST BUCKET

The hoist bucket is strongly made to withstand the service for which it is intended and is of a shape to insure a quick, clean dump as soon as the gate is opened. It receives its load direct from the mixer and is automatically dumped upon reaching the predetermined height, the gate being opened by a lever which strikes the head frame. The gate, which is practically grout tight, closes by its own weight as the bucket is lowered.

HEAD FRAME

The function of the head frame is twofold; it provides a dumping stop for the bucket and at the same time a hopper head for diverting the concrete from the hoist bucket to the short section of chute that feeds the boom chute proper. The head frame grips around the mast angles in such a manner that it can easily be raised or lowered and is held in working position by means of safety bolts, which engage in holes on the mast.

MAST

The steel mast is made of angles properly spaced by means of double riveted bar bracing and is of ample strength to withstand the thrust imposed by the boom chute or to support a chute suspension line. Gusset reinforcing is provided at the joints and the sections, which are 20 feet in length, are made to template, so as to be interchangeable and capable of ready erection.

Whereas a 60-foot mast is furnished as a part of the standard plant, the mast is of sufficient strength to permit of its being increased in height to 140



feet where it is to be supported by guys, or even higher where it can be tied to the building. Additional 20-foot sections can be furnished as required.

QUICK SHIFT SLIDING FRAME

The sliding frame consists of a bracket on which the head end of the boom chute rests, a bridle connection to take the boom chute supporting line, and angles which tie these two members together. The entire assembly slides on the front of the mast in such a manner that it can readily be raised or lowered.

SHEAVES

Two 12-inch metalline bushed sheaves carry the hoist line at the top of the mast and a 12-inch swivel bracket sheave leads the line from the base of the mast to the hoisting engine.

CHUTES

The complete plant includes the short chute which runs from the hopper on the head frame to the head of the boom chute and the 30-foot boom chute proper. Additional sections of chuting for use beyond the end of the boom chute can be furnished as required. See page 15.

ERECTION GIN POLE

With each plant there is furnished a 30-foot gin pole of pipe construction for use in erecting the equipment. During erection this pole is seated on a sliding frame bracket so that it is possible to slide the pole up the mast as the erection progresses. Manila rope blocks to take the erection tackle are furnished by the customer.

ITEMS OF EQUIPMENT FOR STEEL MAST BOOM PLANT

Seven cubic foot capacity Steel Mast Boom Plant to handle output of a 7-S mixer, complete with 60-foot steel mast and 30-foot boom chute, Item No. 1710; code, Hador; net weight, 6,300 pounds; gross weight, crated, 6,900 pounds; cubic feet, crated, 393.

Fourteen cubic foot capacity Steel Mast Boom Plant to handle output of a 14-S mixer, complete with 60-foot steel mast and 30-foot boom chute, Item No. 2710; code, Hafaw; net weight, 6,600 pounds; gross weight, crated, 7,150 pounds; cubic feet, crated, 400.

Where a mast higher than 60 feet is required for either size of plant, add necessary number of 20-foot intermediate sections, Item No. 1611; code, Hadta; net weight, 1,150 pounds; gross weight, crated, 1,200 pounds; cubic feet, crated, 60.

Material Elevator (furnished as an extra), Item No. 1608; code, Hadri; net weight, 380 pounds; gross weight, crated, 450 pounds; cubic feet, crated, 16.

Bail Block for two-line operation (standard plants are equipped for single-line operation), Item No. 1107; code, Hacam; net weight, 35 pounds; gross weight, crated, 40 pounds; cubic feet, crated, 1.

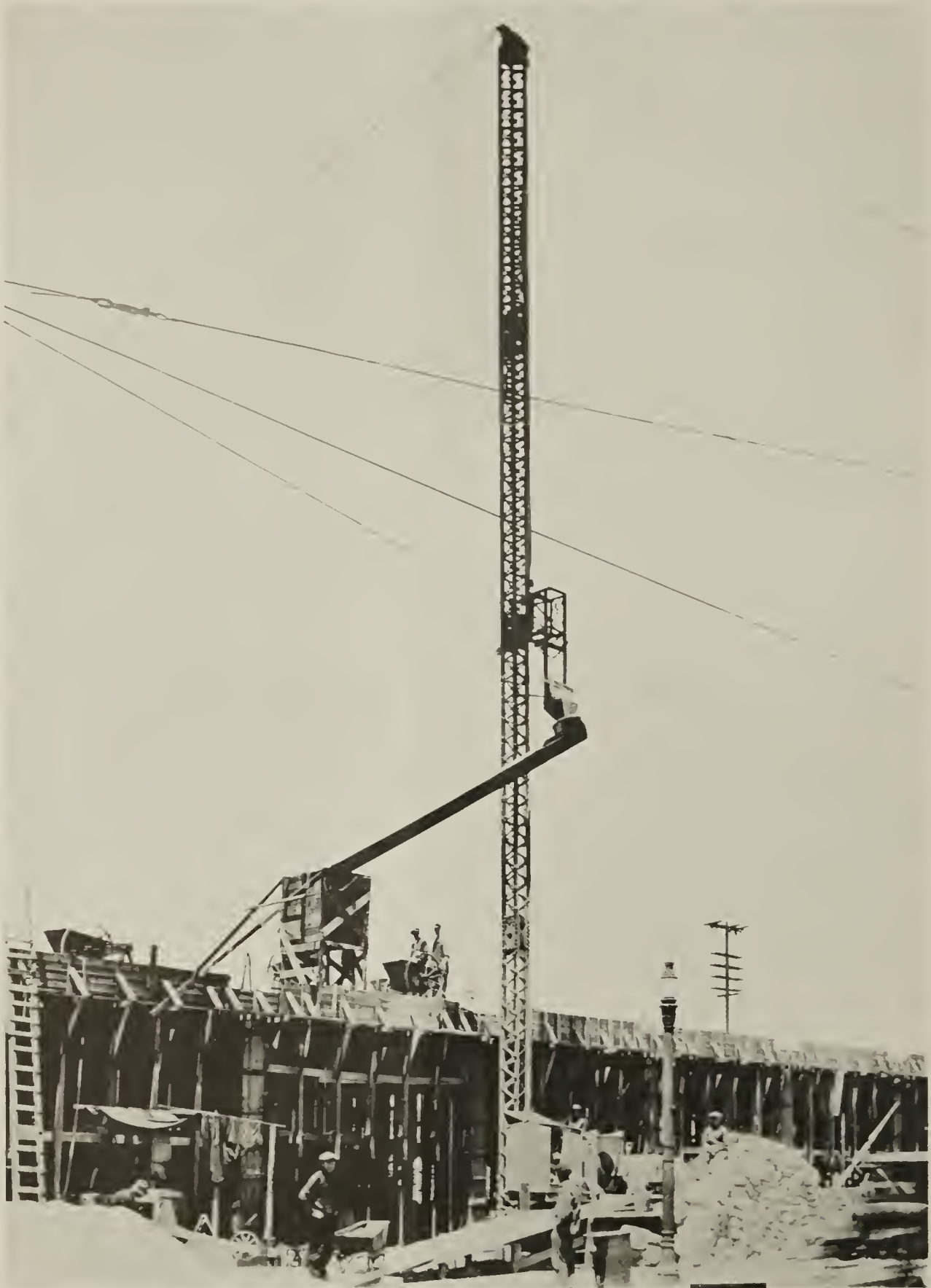
For additional chute sections to use with this equipment, see page 15



Steel Mast Boom Plant showing carts being used for auxiliary distribution. The boom chute discharges directly into a floor hopper, which in turn feeds the carts



Steel Mast Boom Plant showing the concrete being chuted directly into the forms



STEEL MAST PLANT WITHOUT BOOM CHUTE



Steel Mast Plant Without Boom Chute

THE Steel Mast Plant without boom chute is similar to the Boom Plant with the omission of the sliding frame, short chute which runs from the hopper on the head frame, and 30-foot boom chute proper. The equipment is made in both the 7 cubic foot and 14 cubic foot sizes and is intended for use where the concrete is to be elevated and distributed either by wheelbarrows, carts or cable suspended chuting.

A contractor can purchase this plant for use on work for which it is fitted and at a later date convert it into boom plant equipment through the addition of the necessary parts, the bucket, headframe, sheaves, mast and gin pole being the same.

ITEMS OF EQUIPMENT FOR STEEL MAST PLANT WITHOUT BOOM CHUTE

The equipment furnished as a standard plant includes the bucket, head frame, bottom swivel bracket sheave, 60-foot steel mast complete with angle guides and top sheaves, and 30-foot steel gin pole for erection purposes.

Seven cubic foot capacity Steel Mast Plant without Boom Chute, to handle output of 7-S mixer, complete with 60-foot steel mast, Item No. 1610; code, Hadpo; net weight, 5,350 pounds; gross weight, crated, 5,900 pounds; cubic feet, crated, 282.

Fourteen cubic foot capacity Steel Mast Plant without Boom Chute to handle output of a 14-S mixer, complete with 60-foot steel mast, Item No. 2610; code, Hadup; net weight, 5,600 pounds; gross weight, crated, 6,200 pounds; cubic feet, crated, 290.

Where a mast higher than 60 feet is required for either size of plant, add necessary number of 20-foot intermediate sections, Item No. 1611; code, Hadta; net weight, 1,150 pounds; gross weight, crated, 1,200 pounds; cubic feet, crated, 60.

Material Elevator (furnished as an extra), Item No. 1608; code, Hadri; net weight, 380 pounds; gross weight, crated, 450 pounds; cubic feet, crated, 16.

Bail Block for two-line operation (standard plants are equipped for single-line operation), Item No. 1107; code, Hacat; net weight, 35 pounds; gross weight, crated, 40 pounds; cubic feet crated, 1.

For chute sections to use with this equipment, see page 15

NOTE:—A contractor who may have steel mast plant without boom chute equipment can convert the same into a steel mast boom plant by adding sliding frame fixtures, the 30-ft. boom hinged chute and the 5-ft. connecting chute.



WOOD MAST PLANT



Wood Mast Plant

THE Wood Mast Plant is more or less temporary equipment as compared with the steel mast plant owing to the fact that the wood mast has neither the portability or life common to its counterpart of steel. While a wood mast will give very satisfactory service where a mast height of 80 feet will suffice, and where it is not desired to take advantage of the boom plant feature, it is steel mast equipment that is recommended to the contractor as a standard plant tool.

With wood mast equipment the bucket rides on angle guides which are bolted to the mast face, the bucket and head frame being the same as are supplied with the all-steel units. The mast is constructed by the contractor on the job in accordance with drawings which are furnished with the plant.

The plant is made in the 7 cubic foot size only, a wood mast being of insufficient strength to take a 14 cubic foot capacity bucket. A self-supported boom chute such as is a part of the Steel Mast Boom Plant can not be used owing to the excessive thrust which would be imposed on a timber mast.

ITEMS OF EQUIPMENT FOR WOOD MAST PLANT

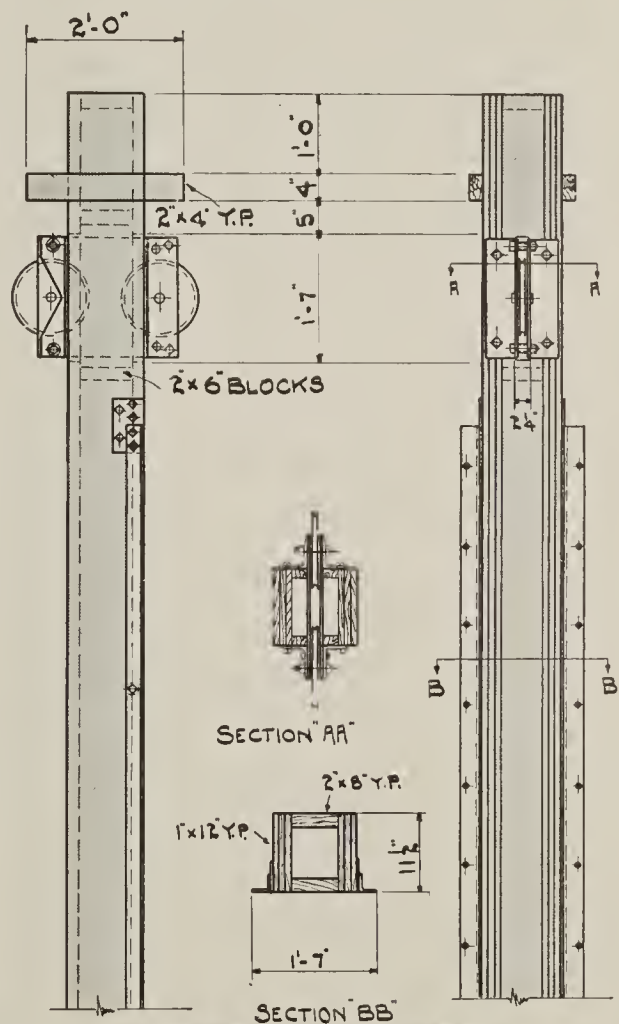
The equipment furnished as a standard plant includes the bucket, head frame, top sheaves, bottom swivel bracket sheave and guide angles for a 60-foot mast.

Seven cubic foot capacity Wood Mast Plant to handle the output of a one-sack mixer, complete with guide angles for a 60-foot mast, Item No. 1510; code, Hadnu; net weight, 2,000 pounds; gross weight, 2,200 pounds; cubic feet, crated, 110.

Where a mast higher than 60 feet is to be used, add necessary number of 20-foot sections of guide angles, Item No. 1108; code, Habum; net weight, 240 pounds; gross weight, 260 pounds; cubic feet, crated, 2.

Material Elevator (furnished as an extra), Item No. 1608; code, Hadri; net weight, 380 pounds; gross weight, 450 pounds; cubic feet, crated, 16.

Bail Block for two-line operation (standard plants are equipped for single-line operation), Item No. 1107; code, Hacat; net weight, 35 pounds; gross weight, 40 pounds; cubic feet, crated, 1.



Wood mast construction

For chute sections to use with this equipment, see page 15



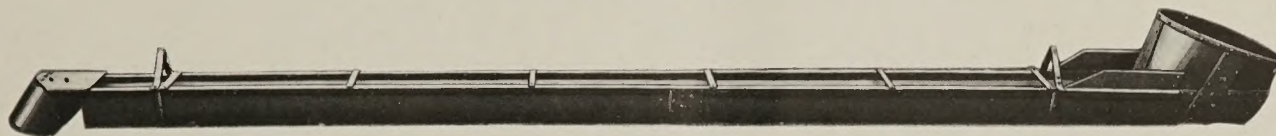
Mast Hoist being operated on a wood material elevator tower, a very efficient arrangement of equipment under certain conditions

In many cases where general hoisting demands make necessary the erection of a tower to take a double platform material elevator, the mast hoist has been used to advantage. With this arrangement of equipment the construction of a mast is unnecessary, the angle guides on which the bucket runs being bolted direct to a timber tied to the tower struts.

The items of equipment required for an installation of this type are exactly the same as those listed under Wood Mast Plant, the tower taking the place of the mast, which would otherwise be built by the purchaser.



CHUTES

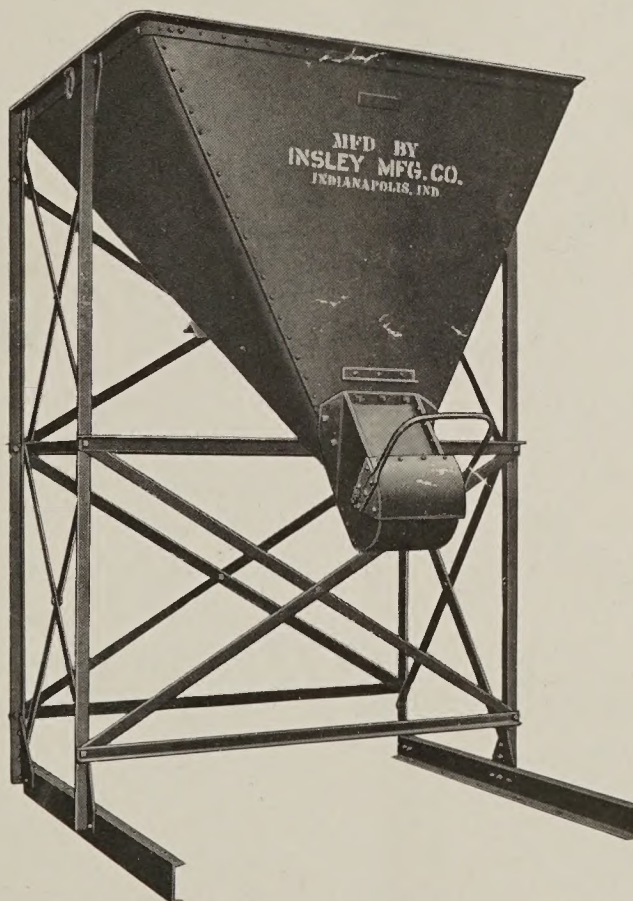


Chutes for use with mast hoist equipment are of the swivel head type, 12" wide across the top, and can be furnished in either 10, 20 or 30-foot lengths.

Item No.	Code	Item	Net Wt. Lbs.	Gross Wt. Crated Lbs.	Cu. Ft. Crated
4810	Sabah	10-foot Swivel Head Chute	220	310	25
4820	Sabbu	20-foot Swivel Head Chute	340	520	44
4830	Sabco	30-foot Swivel Head Chute	490	740	58

NOTE:—A contractor who may have steel mast plant without boom chute equipment can convert the same into a steel mast boom plant by adding sliding frame fixtures, the 30-foot boom hinged chute and the 5-foot connecting chute.

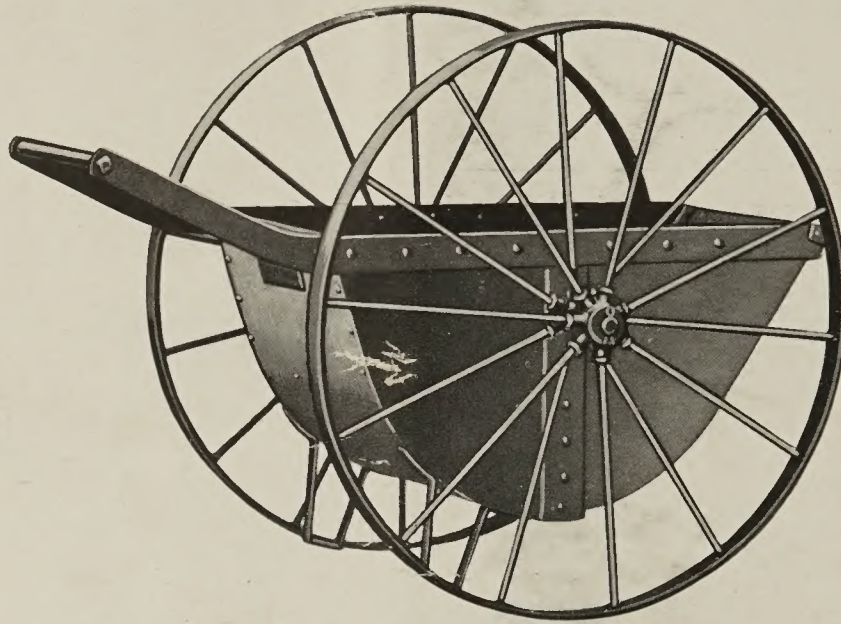
FLOOR HOPPERS



Where the concrete is chuted to a central point for distribution by carts a floor hopper is required. A 30 cubic foot capacity hopper is offered for this purpose, Item No. 830; code, Badac; net weight, 720 pounds; gross weight, crated, 1,020 pounds; cubic feet, crated, 124.



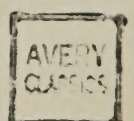
CONCRETE CARTS

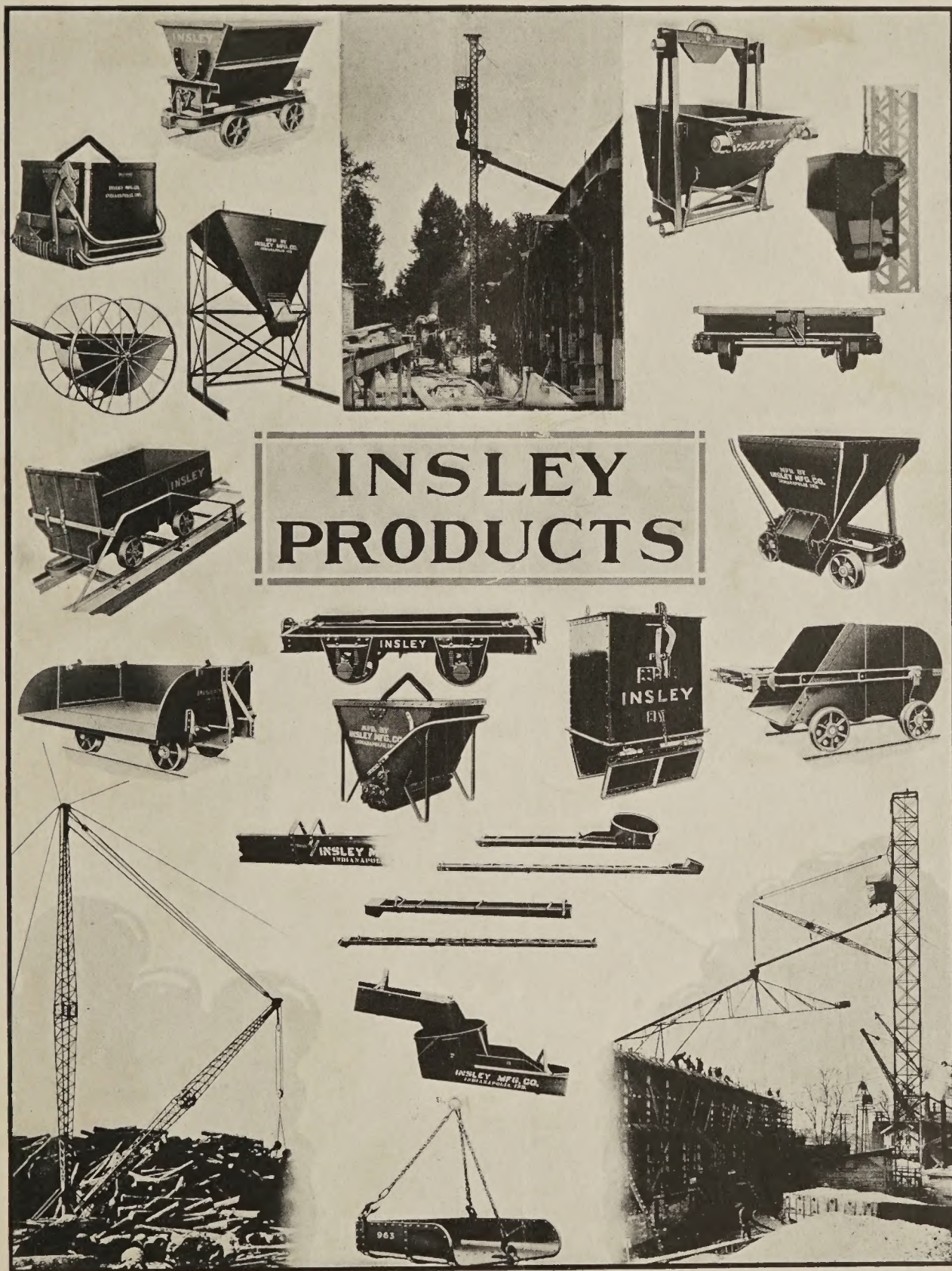


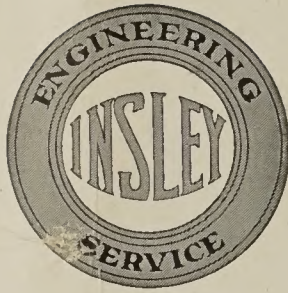
Where the concrete is to be wheeled either direct from the mast or from a floor hopper located at a central point, the cart illustrated is recommended. It is a well-balanced and very durable unit designed to push easily and stand up under severe service. The axle passes through the cart and is keyed to reinforcing bars, a construction which results in a cart that will not bulge or lose its shape.

Item No.	Code	Capacity Cu. Ft. Level Full	Diam. Wheels	Net Wt. Lbs.	Gross Wt. Crated Lbs.	Cu. Ft. Crated
150	Cabax	6 $\frac{3}{4}$	42"	265	430	29
151	Cabew	Same as No. 150, but with supporting legs		270	435	29

Literature covering the complete line of Insley equipment for construction use will be mailed upon request.







Catalog No. 45